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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,431	06/06/2001	Alex Ka Tim Poon	NRCAP003	3400

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EXAMINER

BROWN, KHALED

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No. 09/876,431		Applicant(s) POON ET AL.	
	Examiner Khaled Brown		Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 22 April 2003.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) 47 is/are allowed.

6) ☒ Claim(s) 1-4,6-9 and 11-46 is/are rejected.

7) ☒ Claim(s) 5 and 10 is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 06 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4-22-03 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-9, 11-46 are still rejected under 35 U.S.C. 103(a) as being unpatentable over Doran et al (US 5585629) in view of Toshiya Asano (JP 2000223410).

Re clms 1,14,15,16,25,26,33,39: Doran et al discloses a scanning apparatus (Fig 3) comprising a first actuator (Col 6 line 51, #100), a first stage or surface (Doran et al 32) and a second stage or surface (Doran et al 30). However, Doran et al does not disclose a first coupler and a second coupler arranged to contact both the first and second stages. Toshiya Asano teaches (Section 0030) that passive couplers or transmitters (37) can be used to contact first and second stages in a scanning exposure apparatus

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in order to prevent deformation (Section 0006) of a wafer being scanned. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use first and second couplers to connect first and second stages as taught by Toshiya Asano because it would prevent deformation of a wafer being scanned.

Re clms 2,17,28,34: a second actuator (Doran et al Col 6 line 51) is disclosed.

Re clms 3,18: the actuator that moves the first stage (Doran et al 32) will also move the second stage (Doran et al 30) since the second stage is sitting on top the first stage.

Re clms 4, 6,7,19,20,21,27,29: the first coupler will be in a first state i.e. taunt or slack and the second coupler will be a second state i.e. taunt or slack since Toshiya Asano teaches the use of passive items i.e. cords or strings for couplers (Toshiya Asano Section 0003).

Re clms 8,9: minimal vibrations (Inherent result of the use of passive couplers)

Re clms 11,22,30,36,40: an exposure apparats (Doran et al Fig 3)

Re clms 12, 13,23,24,31,32,37,38,41,42: a devise (Doran et al 22).

Re clm 35: a third actuator (Doran et al Col 6 line 51) is disclosed.

Re clms 43-46: The limitations of the method claims 43-46 can be performed by the combination system of Doran et al and Toshiya Asano as disclosed above.

Allowable Subject Matter

Claims 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: See applicants Remarks filed 7-16-02 p. 6 lines 1-5.

Claim 47 is allowed.

The following is an examiner's statement of reasons for allowance: claim 47 is identical to previously Objected to claim 10 and thus is essentially a copy of claim 10 written in independent form and is allowable because it contains the allowable subject matter contained in claim 10 which has been identified above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed 4-22-03 have been fully considered but they are not persuasive. With respect to claim 10, the applicant states that applicant has chosen not to write dependent claim 10 in independent form at this time (Amendment filed 4-22-03 p. 2 line 24). However, the applicant did add independent claim 47, which is identical to claim 10, which is effectively copying, claim 10 in independent form.

With respect to claim 1 and its dependent claims the applicant argues that the applicant did not admit in the Amendment filed 7-16-02 that two couplers were needed to perform scanning (Amendment filed 4-22-03 p. 3 lines 7-8). However the applicant did admit in the Amendment filed 7-16-02 that two couplers were needed to perform scanning when the applicant stated "The use of two couplers allows scanning...." which

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was a general statement by the applicant that in order for scanning to take place two couplers are needed (Amendment filed 7-16-02 p. 5 line 14-15).

With respect to claims 1 and 33 and their dependent claims the applicant argues that Asano teaches using only one coupler (Amendment p. 3 lines 24-25 and p. 4 lines 13-14) and the applicant relies on one of several different embodiments of the invention of Asano, which teaches a rigid spring could be used to perform coupling between two stages, to support this allegation. However, in another of the several different embodiments of Asano, Asano teaches that passive couplers can be used to couple two stages together (Asano Section 0030) and the applicant states as noted above that in a scanning apparatus the use of two couplers is necessary for a scanning apparatus to function. Asano discloses a scanning apparatus (Asano Section 003, 005 and 0014) and therefore by applicants own admission the invention of Asano would not work without at least two couplers and therefore Asano's disclosure of passive couplers for use with a scanning apparatus suggests multiple couplers. Additionally, with respect to claim 33 the applicant argues that Asano does not teach two couplers having different states (Amendment filed 4-22-03 p. 4 lines 8-9). However, couplers having different states is an inherent result of the obvious matter of design choice of locating the two couplers of Asano on opposite ends of the course stage which would have been necessary in order for the invention of Asano to perform as stated by applicant and given the rigidity changing characteristics of the couplers of Asano as shown in the graph of Asano Fig 2 (Section 0036) which suggests the claimed invention and reduces positioning errors.

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With respect to claims 14 and 25 and their dependent claims, the applicant argues that Asano does not teach a coupler for which the stiffness or the transmissibility changes depending upon a direction or acceleration (Amendment filed 4-22-03 p. 4 line 28- p. 5 line 1 and p. 5 lines 19-20). However, Asano teaches the use of passive couplers, as noted above, to pull one stage by another during scanning and it is an inherent property of passive couplers to become stiffer or taunt under load which of course changes transmissibility. The applicant also seems to rely on the embodiment of Asano which teaches a spring coupler rather than to rely on the embodiment of Asano which teaches passive couplers, to draw the conclusion that a passive coupler is rigid (Amendment p. 5 lines 1-4). The meaning of passive coupler implies low rigidity as contrasted with the spring embodiment of Asano. Additionally, with respect to claim 14, the applicant argues that Asano does not teach that the transmissibility changes depending upon the scanning direction. However, Asano does teach that the transmissibility of the coupler changes when the flexible volume changes i.e. the instant the course stage changes direction of scanning (Asano Section 0035 and 0037). Additionally, the applicant argues with respect to claim 25 that Asano teaches using passive elements for the couplers but does not explicitly state that the passive elements are cords (Amendment p.5 lines 4-6). However, Asano discloses the claimed invention except for stating the passive elements are cords. It would have been an obvious matter of design choice to use cords for the passive elements of Asano, since applicant has not disclosed that using cords for the passive elements solves any stated problem or is

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for any particular purpose and it appears that the invention would perform equally well with cords for the passive elements.

With respect to claims 39 and 43 and their dependent claims, the applicant argues that since Asano teaches an embodiment using a spring, Asano cannot teach or suggest the claimed limitations because the use of a spring cannot meet the claimed limitations (Amendment p. 6 line 14 and p. 7 lines 1-2). However, Asano teaches that in addition to the spring embodiment, another embodiment of the Asano invention is the use of passive couplers, and hence the use of passive couplers does allow the claim limitations to be met as noted above (Asano Section 0030). For any other arguments see above rejections.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yuan et al 6260282 and Yuan et al 6008610.

Note: No IDS was filed with RCE filed 4-22-03.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khaled Brown whose telephone number is 703-306-5738. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703-308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

KB
May 18, 2003



Frank Font

Supervisor Art Unit 2877